

REMARKS

The following remarks are in response to the non-final Office Action mailed on January 7, 2009 in which claims 1-22 were rejected. No claims are currently amended or cancelled. Claims 1-22 are currently pending. In light of the following remarks, the applicant respectfully requests withdrawal of the pending rejections and advancement of this application to allowance.

Preliminary Matter

As a preliminary matter, the claims pending in this office action were rejected over Isen et al. (U.S. Patent No. 5,763,058) in an Office Action bearing a mailing date of November 2, 2007. The applicants then filed an Amendment and Response on May 2, 2008. The Patent Office issued a Notice of Allowance and Fee(s) Due on June 27, 2008, Notice of Withdrawal from Issue Under 37 C.F.R. § 1.313 on July 24, 2008, and then the current Office Action on January 7, 2009.

The first paragraph of the current Office Action states, "After reconsideration and finding of what is believed more pertinent prior art, the following non-Final Office Action is now provided." The current Office Action goes on to repeat the rejection over Isen provided in the Office Action of November 22, 2007. It does not cite any new art or provide any new reasoning for the rejection.

Rejection Under 35 U.S.C. § 103(a)

In the Office Action, claims 1-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Isen et al. (U.S. Patent No. 5,763,058). Applicant respectfully traverses this rejection and do not concede any characterization of the pending application or references cited during prosecution of this application.

Claims 1-22 set forth, "forming a second insulating layer on the first insulating layer and the at least one battery ...; and positioning a circuit component on the second insulating layer opposing the at least one battery." The claims require the circuit board to include a circuit component positioned on the second insulating layer over the battery. Figure 1 in the pending application illustrates one of the many possible embodiments. In this example, a battery 165 is placed within a flexible circuit board 105, with additional circuit components 150, 155 opposing the battery:

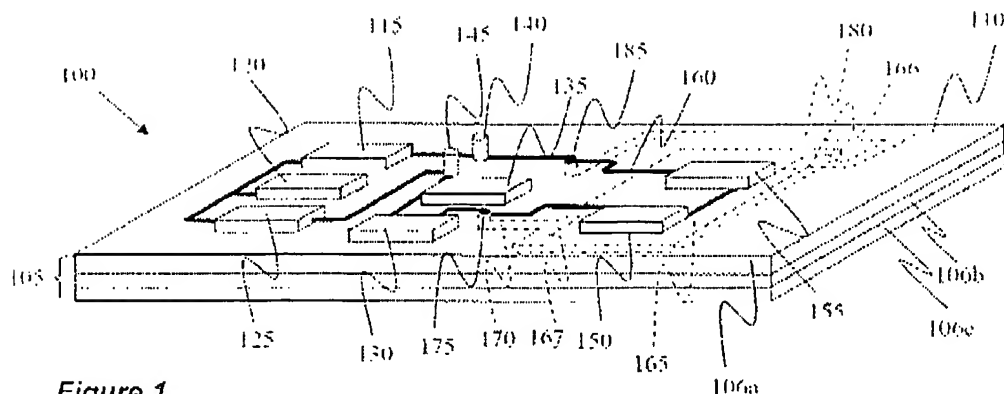


Figure 1

The application discloses that an advantage of placing a battery within a flexible circuit board is "to allow more surface area for the population of [circuit] components." Application, p. 7 (last paragraph). The circuit components opposing the battery would need to be relocated if the battery were not located within the circuit board.

In order to establish a prima facie obviousness rejection of the pending claims, the Office Action "must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." M.P.E.P. § 706.02(j) (*quoting, Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985)). Not only does the Office Action fail to provide a reason why Isen discloses or suggests all of the elements in the pending claims, it does not even mention the claimed act of "positioning a circuit component on the second insulating layer opposing the at least one battery." Indeed, Isen not only fails to teach or suggest the claimed combination of elements, it actually teaches away from them.

Isen is generally directed to an electrical circuit component printed directly onto one side of a substrate. (See, e.g., Isen, abstract) As shown in FIG. 8, Isen illustrates printing a battery (seen as E1) onto a substrate 53:

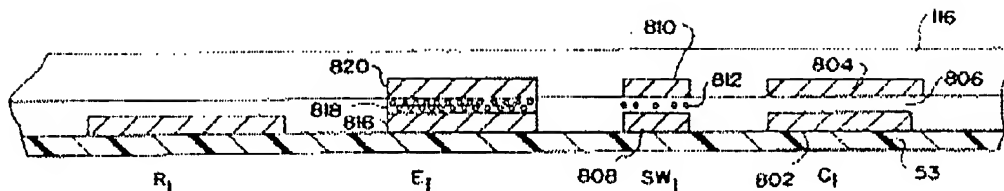


FIG. 8

A protective coating 116 covers the battery E_1 and the surface of the finished electrical circuit. Isen, col. 9:48-52. The battery is between the protective coating 116 and the substrate 53. The protective coating 116 is the structure that is on the battery, the insulating layer 806 is not on the battery. Additionally, Isen does not disclose or suggest positioning a circuit component on the protective coating 116, which is the only disclosed structure that is on the battery.

Even if the protective coating 116 is an insulating layer, Isen teaches away from placing components in a position opposing a battery for at least two reasons. First, Isen discloses use of an encapsulated liquid electrolyte that must be exposed to an external force (e.g., mechanical pressure, electricity, heat, or light) to activate the battery. Isen, col. 11:64 - 12:5. For example, a user must squeeze the battery through the protective coating 116 and the substrate layer 53 to activate the battery. This disclosure suggests that at least the portion of the protective coating 116 opposing the battery is exposed (e.g., not populated with electrical components) to allow application of an external force through the protective coating 116 and to the battery.

Second, Isen suggests the upper electrode 820 is zinc and the lower electrode 816 is carbon. Isen, col. 12:13-16. It discloses that the zinc battery electrode has holes in it "so that dipping the battery in water will liquidify the alkaline thus activating the electrolyte [818] to power the battery." Isen, col. 12:16-19. This disclosure suggests the protective coating 116 also has holes in it to allow water to pass into the holes of the zinc battery electrode. The disclosure also suggests that there are no electrical components positioned on the protective coating 116 and opposing the battery. Such positioning could cause the components to be exposed to water and to block the holes preventing water from reaching the electrolyte 818. Therefore, Isen teaches away from the claimed combination of elements.

For at least the reasons discussed above, Isen fails to disclose or suggest all limitations of claims 1-22 of the present application. Accordingly, the applicant respectfully requests withdrawal of the pending rejection.

CONCLUSION

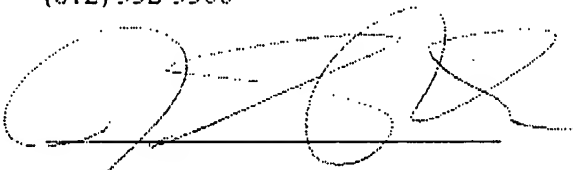
In view of this Amendment and Response, the applicant respectfully requests allowance of the pending claims and advancement of this application to allowance. There may be additional reasons that the subject matter is patentably distinct from the cited references, in addition to those discussed herein. The applicant reserves the right to raise any such arguments in the future.

If the examiner believes a telephone conference would advance the prosecution of the application, the examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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